

WHAT IS CLAIMED IS:

1. A two-part curable foaming composition comprising:
 - (A) A first part comprising:
 - (i) an alkoxy silyl capped prepolymer; and
 - (ii) a polyhydrogen siloxane;
 - (iii) optionally a catalyst which accelerates both foaming and cross-linking through said alkoxy silyl groups; and
 - (B) A second part comprising:
 - (i) a nitrogen-containing compound having an active hydrogen;
 - (ii) water; and
 - (iii) optionally a catalyst which accelerates both foaming and cross-linking through said alkoxy silyl groups;

provided that at least one of the parts contain a catalyst and wherein after mixing together the first and second parts a cured elastomeric foam is formed.

2. The two-part curable foaming composition of claim 1, wherein the elastomeric foam is formed under temperatures greater than ambient.
3. The two-part curable foaming composition of claim 1, wherein the first and/or second part further comprise a lubricous agent.
4. The two-part curable foaming composition of claim 1, wherein said lubricous agent comprises a silicone/polyether surfactant.
5. The two-part curable foaming composition of claim 3, wherein the surfactant creates a surface of the elastomeric foam.
6. The two-part curable foaming composition of claim 1, wherein the nitrogen-containing compound is a primary or secondary amine.

7. The two-part curable foaming composition of claim 1, wherein said catalyst is a strong Lewis base.
8. The two-part curable foaming composition of claim 1, wherein said catalyst is an amine condensation catalyst.
9. The two-part curable foaming composition of claim 1, wherein the catalyst is selected from the group consisting of 1,8-diazobicyclo (5,4,0)-undec-5-ene (DBU); dibutylamine; quinuclidine, 1,4-diazabicyclo(2,2,2) octane, and combinations thereof.
10. The two-part curable foaming composition of claim 1, wherein the alkoxy silyl capped prepolymer comprises the reaction product of a isocyanoalkylenetrialkoxy silane with a polyether diol.
11. The two-part curable foaming composition of claim 1, wherein the alkoxy silyl capped prepolymer comprises a trimethoxysilyl capped diurethane polyether.
12. The two-part curable foaming composition of claim 1, wherein the polyether diol comprises polypropylene oxide diol.
13. The two-part curable foaming composition of claim 1, wherein the foaming composition further comprises fillers, plasticizers, catalysts, stabilizer, lubricants, surfactants and combinations thereof.
14. An elastomeric foam comprising the reaction product of:
 - (A) A first part comprising:
 - (i) an alkoxy silyl capped prepolymer; and
 - (ii) a polyhydrogen siloxane;
 - (iii) optionally a catalyst which accelerates both foaming and cross-linking through said alkoxy silyl groups; and
 - (B) A second part comprising:

- (i) a nitrogen-containing compound having an active hydrogen;
- (ii) water; and
- (iii) optionally a catalyst which accelerates both foaming and cross-linking through said alkoxysilyl groups;

provided that at least one of the parts contain a catalyst and wherein after mixing together the first and second parts a cured elastomeric foam is formed.

15. A moisture curable foaming composition comprising an alkoxysilyl capped prepolymer, a polyhydrogen siloxane, a nitrogen-containing compound having an active hydrogen, and water.

16. A sound and vibration dampening composition comprising the foam of claim 1.

17. A composite structure comprising first and second substrates and an elastomeric foam positioned therebetween, said elastomeric foam comprising the reaction product of an alkoxysilyl capped prepolymer, a polyhydrogen siloxane, a nitrogen-containing compound having an active hydrogen, water, and a catalyst which accelerates both foaming and cross-linking through the alkoxysilyl groups.

18. A method of filling the gap between two substrate surfaces comprising:

(A) Providing a two-part curable foaming composition comprising:

(a) A first part comprising:

- (i) an alkoxysilyl capped prepolymer; and
- (ii) a polyhydrogen siloxane;
- (iii) optionally a catalyst which accelerates both foaming and cross-linking through said alkoxysilyl groups; and

(b) A second part comprising:

- (i) a nitrogen-containing compound having an active hydrogen;
- (ii) water; and
- (iii) optionally a catalyst which accelerates both foaming and cross-linking through said alkoxysilyl groups;

provided that at least one of the parts contain a catalyst and wherein after mixing

together the first and second parts a cured elastomeric foam is formed.

- (B) Combining the parts in the gap between the substrates; and
- (C) Permitting the composition to form a cured foam therebetween.

19. A method of making a noise and vibration dampening seal between surfaces comprising the steps of:

introducing between the surfaces a composition comprising a mixture of:

- (A) A first part comprising:
 - (i) an alkoxy silyl capped prepolymer; and
 - (ii) a polyhydrogen siloxane;
 - (iii) optionally a catalyst which accelerates both foaming and cross-linking through said alkoxy silyl groups; and
- (B) A second part comprising:
 - (i) a nitrogen-containing compound having an active hydrogen;
 - (ii) water; and
 - (iii) optionally a catalyst which accelerates both foaming and cross-linking through said alkoxy silyl groups;

provided that at least one of the parts contain a catalyst and wherein after mixing together the first and second parts a cured elastomeric foam is formed;

permitting the composition to form a cured foam.

20. A method of manufacturing a self-lubricating, foaming composition, comprising:

- (A) providing a curable composition comprising an alkoxy silyl capped prepolymer, a polyhydrogen siloxane, a nitrogen-containing compound having an active hydrogen for reaction with the polyhydrogen siloxane, water and a catalyst which accelerates both foaming and cross-linking through the alkoxy silyl group;
- (B) providing to the curable composition a silicone/polyether surfactant;
- (C) dispensing the composition onto a substrate surface;
- (D) exposing the composition to conditions favorable to generating a cured foam; and
- (E) permitting the surfactant to migrate to the surface to provide a lubricious surface.

21. The method of claim 20, further comprising joining a second substrate surface to the lubricious surface of the cured foam.
22. The composition of claim 1, further comprising aminoalkyltrimethoxy silane.
23. The method of claim 20, further comprising adding aminopropyltrimethoxysilane to said curable composition.
24. A two-part curable foaming composition comprising:
 - (A) A first part comprising:
 - (i) an alkoxy silyl capped prepolymer; and
 - (ii) a polyhydrogen siloxane;
 - (iii) optionally a catalyst which accelerates both foaming and cross-linking through said alkoxy silyl groups;
 - (B) A second part comprising:
 - (i) a nitrogen-containing compound having an active hydrogen and which accelerates both foaming and cross-linking through said alkoxy silyl groups; and
 - (ii) water;wherein after mixing together the first and second parts a cured elastomeric foam is formed.
25. A two-part curable foaming composition which provides a lubricous surface comprising:
 - (A) A first part comprising:
 - (i) an alkoxy silyl capped prepolymer; and
 - (ii) a polyhydrogen siloxane;
 - (iii) optionally a catalyst which accelerates both foaming and cross-linking through said alkoxy silyl groups;
 - (iv) optionally, a lubricant; and

(B) A second part comprising:

- (i) a nitrogen-containing compound having an active hydrogen;
- (ii) water; and
- (iii) optionally a catalyst which accelerates both foaming and cross-linking through said alkoxy silyl groups;
- (iv) optionally, a lubricant;

provided that at least one of the parts contain a catalyst and a lubricant and wherein after mixing together the first and second parts a cured elastomeric foam is formed.